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TITLE: TRIGGER LOCK DEVICE OF NAILING
MACHINE
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ABSTRACT:

PURPOSE: To improve reliability of a trigger lock device of a nailing machine.

CONSTITUTION: A dial 10 opposed to a back face of a trigger lever is arranged in a front upper part of a grip 3 of a nailing machine. A stopper part 14 projecting forward from one end of the front of the dial 10 is provided. A projecting part 12 of a spherical surface is arranged on the reverse of the dial 10, and recessed parts 17 and 18 to be fitted to the projecting part 12 in a lock release position (a) and a

trigger lock position

(b), are arranged on a dial installing seat. Since an edge part is formed as a gently inclining face, the recessed part 17 of the lock release position (a) can easily rotate to the trigger lock position (b) from the lock release position (a). In the recessed part 18 of the trigger lock position (b), an edge part is formed as a vertical wall surface, and a lock is released by two-stage operation such as rotating the dial 10 by pulling up the dial 10.

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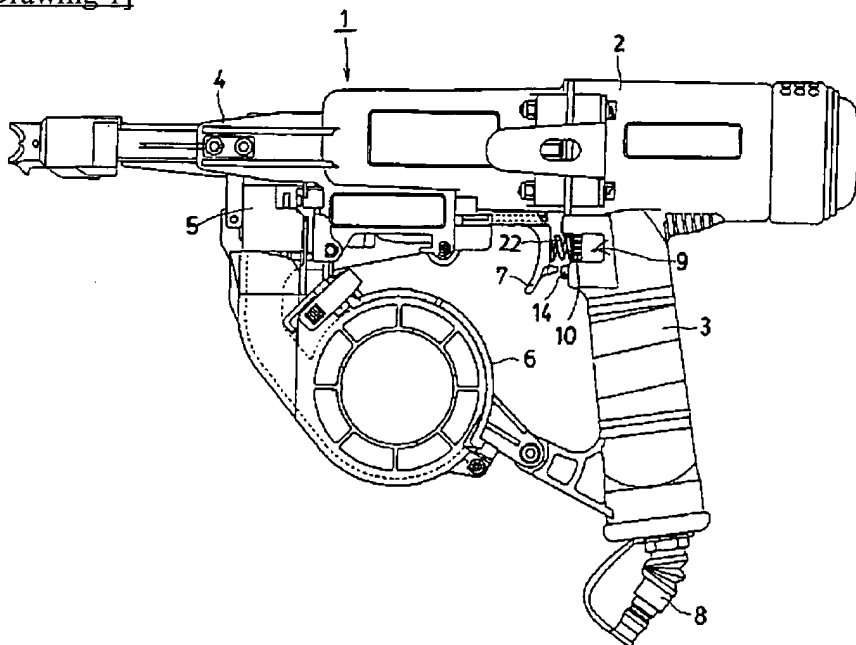
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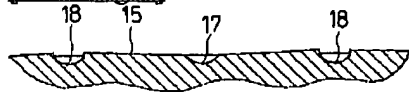
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DRAWINGS

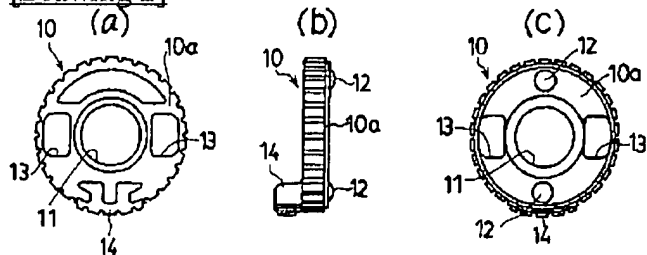
[Drawing 1]



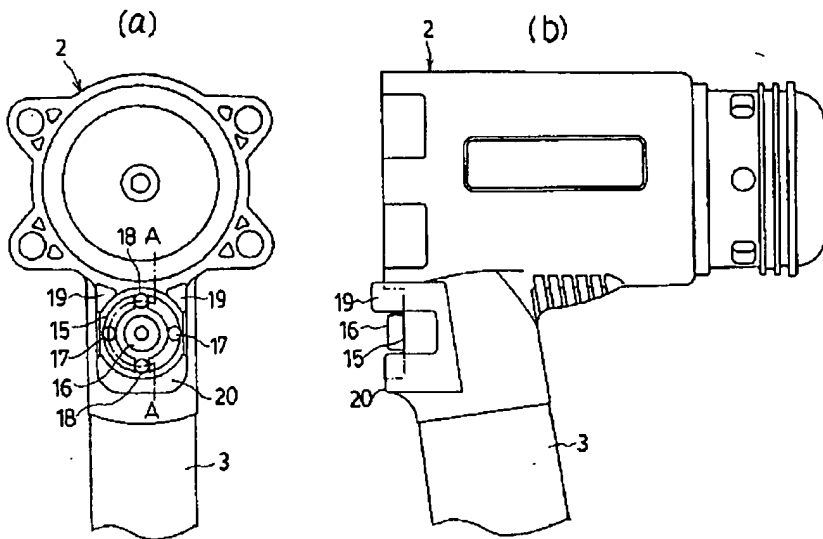
[Drawing 4]



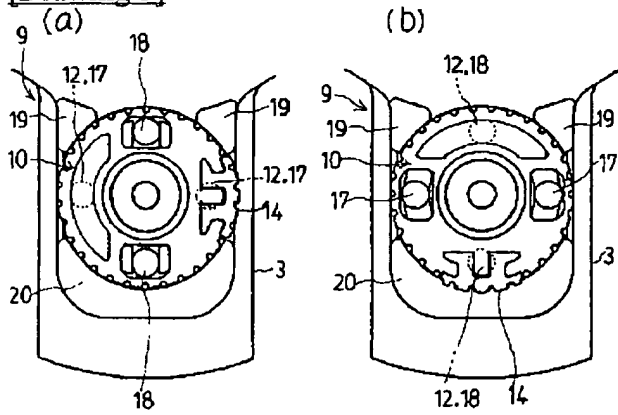
[Drawing 2]



[Drawing 3]



[Drawing 5]



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 DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the trigger locking device which raised especially certainty about the trigger locking device of a ***** machine.

[0002]

[Description of the Prior Art] What prepared the trigger locking device as a safety device of the ***** machine for stock work is known. Although there are various things in a trigger locking device, the thing which moves a stopper into the movable path of a trigger lever, and prevents from operating a trigger lever is common. If a trigger lever is lengthened as a trigger lock position, a stopper counters to a trigger lever, it is equipped with him at the upper-limit part of the grip of a ***** machine, and it can rotate in a trigger lock position and a lock release position, and a trigger lever has movement prevented in contact with a stopper, and it is formed so that a ***** machine cannot be started.

[0003] Moreover, if a stopper is rotated to a lock release position, a slot, a hole, etc. which the stopper evacuated from the path of a trigger lever, or were established in a stopper's front face will stand face to face against a trigger lever, and the operation of a trigger lever of them will be attained.

[0004] The fingerplate lever section is prepared in a stopper's side, the fingerplate lever section can be pushed, lengthened and carried out with the thumb of the hand which grasped the grip of a ***** machine, and a stopper can be rotated to a trigger lock position or a lock release position. The moderation mechanism which fixes a stopper to a trigger lock position and a lock release position is prepared in the stopper attachment section of a stopper and a ***** machine, and it has the structure of giving an operator a feeling of a click.

[0005]

[Problem(s) to be Solved by the Invention] In a trigger lock state, as for the conventional trigger locking device which prepared the stopper for a trigger lock the fingerplate lever section, the fingerplate lever section projects to the side of a ***** machine. Moreover, since it is the structure which can perform easily a change with a trigger lock position and a lock release position, when a trigger lever is locked, it moves and the fingerplate lever section contacts a human body, other bodies, etc., a stopper rotates to a lock release position, there are a ***** possible state and a bird clapper, and reliability is not enough.

[0006] Then, the technical technical problem which should be solved in order for a stopper to cancel the danger of carrying out unexpected rotation from a lock position to a lock release position against an intention of an operator and to improve safety arises, and this invention aims at solving the above-mentioned technical problem.

[0007]

[Means for Solving the Problem] Propose this invention in order to attain the above-mentioned purpose, and it equips free [rotation of the dial which counters the front upper part of the grip of a ***** machine at the tooth back of a trigger lever]. The trigger lock position where the aforementioned stopper section is located in the path of the aforementioned trigger lever by preparing the stopper section which projects to the front in a part of front face of the aforementioned dial, and rotating the

aforementioned dial, In the trigger locking device of the ***** machine which established the moderation mechanism which forms in the lock release position evacuated from the aforementioned path free [a change], and fixes the aforementioned dial in the aforementioned trigger lock position and a lock release position The heights of the spherical surface are prepared in one side of the rear face of the aforementioned dial, and the dial mounting eye of the aforementioned grip. While establishing the crevice which engages with the aforementioned heights in a trigger lock position and a lock release position in another side, carrying out the pressure welding of the aforementioned dial to the dial mounting eye of the aforementioned grip by energization of a spring and forming a moderation mechanism The upper-limb part of the aforementioned crevice of a trigger lock position forms an almost perpendicular wall surface, and the upper-limb part of the aforementioned crevice of a lock release position offers the trigger locking device of the ***** machine which forms the gentle slope.

[0008]

[Function] A dial is fixed by the moderation mechanism which consists of heights, a crevice, and a spring in the two above-mentioned position when the dial with which the front upper part of the grip of a ***** machine was equipped is rotated to a trigger lock position or a lock release position. It becomes impossible to operate [which the stopper section which projects from the front face of a dial to the front in a trigger lock position stands face to face against the tooth back of a trigger lever, and lengthens a trigger lever] it, the stopper section evacuates from the moving trucking of a trigger lever, and nailing ***** of it becomes possible in a lock release position.

[0009] If a marginal part forms a gentle slope, the crevice of a lock release position is following the dial mounting eye and turning effort is given to a dial, the heights of the spherical surface can secede from a crevice along a slant face, and can rotate a dial easily to a trigger lock position.

[0010] The marginal part of the crevice of a trigger lock position serves as a perpendicular or perpendicularly near wall surface to the dial mounting eye, and even if it gives turning effort to the dial in a trigger lock position, it has difficult structure that heights collide with the marginal part of a crevice and make engagement break away. Therefore, since two steps of operations of rotating a dial are needed after resisting the energization of the spring of a moderation mechanism which carries out the pressure welding of the dial to a dial mounting eye, pulling up a dial and canceling engagement to heights and a crevice, in case a lock is canceled, there is nothing in a possibility that a dial may contact a surrounding thing and a trigger lock may be canceled.

[0011]

[Example] Hereafter, one example of this invention is explained in full detail according to drawing.

Drawing 1 shows the ***** machine 1 of air drive type, and the grip 3 is fabricated by the mechanism section housing 2 in one. the anterior part of the mechanism section housing 2 -- a nose -- the driver rod combined with the piston which it was equipped with the section 4 and fitted loosely into the cylinder part in the mechanism section housing 2 (not shown) -- a piston -- interlocking -- a nose -- both-way movement of the inside of the section 4 is carried out a nose -- the add-on-bay nail with which the nail magazine 6 was combined with the nail delivery mechanism section 5 of the inferior surface of tongue of the section 4, and the nail magazine 6 was loaded -- a nose -- it supplies one by one into the section 4

[0012] The inferior surface of tongue of the mechanism section housing 2 is equipped with the trigger lever 7 free [a slide], the hose connector plug 8 and air compressor of an edge of a grip 3 are connected through an air hose, and the trigger bulb (not shown) connected with the trigger lever 7 is wide opened by lengthening the trigger lever 7. thereby -- a piston and a driver rod -- the pneumatic pressure in the mechanism section housing 2 -- a nose -- the direction of a nose of cam of the section 4 -- rapid -- moving -- a nose -- the nailhead section currently supplied in the section 4 is hit, and a nail is driven into an object

[0013] The trigger locking device 9 is formed in the front upper part of a grip 3, and the dial 10 of the trigger locking device 9 has countered the tooth back of the trigger lever 7. As shown in drawing 2, the knurling tool was fabricated by the periphery of disk section 10a, and the feed hole 11 has opened the circular dial 10 in the center. and the position which the spherical-surface-like heights 12 of the couple displaced 180 degrees focusing on the feed hole 11 at the rear face protruded, and was rotated 90

degrees from heights 12, respectively -- the rectangle of a couple -- the hole 13 has opened Moreover, although the stopper section 14 which projects to the front is formed in the front-face side of the same position as one heights 12 and the knurling tool is fabricated by the peripheral face of the stopper section 14, the peripheral face of the stopper section 14 bulges from the outer diameter of a dial 10 to mist or the outside.

[0014] Drawing 3 shows the second half section of the mechanism section housing 2, and the dial mounting eye 15 is formed in the front upper part of a grip 3. A boss 16 is formed in the center of the dial mounting eye 15, and a boss 16 is inserted in the feed hole 11 of a dial 10, and is supported free [rotation of a dial 10]. The crevices 17 and 18 of the shape of two pairs of spherical surfaces are established in the equidistant position from a boss's 16 center at a boss's 16 four directions, and it is formed in the position and configuration corresponding to heights 12 of the dial 10 mentioned above, respectively. Therefore, if a dial 10 is inserted in a boss 16 and a dial 10 is rotated, the heights 12 of a dial 10 can move circularly focusing on a boss 16, and can be made engaged to the crevice 17 on either side or the up-and-down crevice 18.

[0015] Drawing 4 is the A-A line cross-section development of drawing 3 (a), and shows the moving trucking of the heights 12 of a dial 10. As shown in this drawing, the crevice 17 on either side is shallower than the up-and-down crevice 18, and the gentle slope where the upper-limb section follows a bearing surface by the smooth surface is formed. Moreover, a bearing surface has the inclination which goes up a little toward the up-and-down crevice 18 from the crevice 17 on either side, and as shown in drawing 3 and drawing 4, the almost perpendicular wall surface is formed in the right-and-left marginal part of the up-and-down crevice 18.

[0016] Moreover, as shown in drawing 3, the dial covering sections 19 and 20 which -ed ** the peripheral face of a dial 10 are set up by right and left of the lower part of the dial mounting eye 15, and the upper part, and the bore of the dial mounting eye 15 is almost equal to the outer diameter of a dial 10. The height of the lower dial covering section 20 from the dial mounting eye 15 is almost equal to the thickness of disk section 10a of a dial 10, and the height of the up dial covering section 19 is formed almost equally to an overall height including the stopper section 14 of a dial 10. Therefore, since the stopper section 14 which bulges outside a little from the periphery section of a dial 10 interferes in the up dial covering section 19 on either side, angle of rotation of a dial 10 is restricted to about 180 degrees.

[0017] As shown in drawing 1, a compression spring 21 is infixed in the dial 10 and the trigger lever 7 with which the dial mounting eye 15 was equipped, and a dial 10 carries out a pressure welding to the dial mounting eye 15, and constitutes the moderation mechanism by heights 12, crevices 17 and 18, and the compression spring 21. Since the periphery knurling tool of the stopper section 14 projects from the up-and-down covering sections 19 and 20 to mist or the side in the lock release position which has exposed right and left of a dial 10 outside, and is shown in drawing 5 (a), the lock operation by **** of the hand which grasped the grip 3 is easy.

[0018] In a lock release position, the heights 12 of a dial 10 have fitted into the crevice 17 of right and left of the dial mounting eye 15, and if dial rotation operation is performed applying **** to the periphery knurling tool of a dial 10, heights 12 will secede from them easily from the shallow crevice 17. And by rotating a dial 10 90 degrees to one of right and left, as shown in drawing 5 (b), a dial 10 serves as a trigger lock position, the heights 12 of a dial 10 fit into the up-and-down crevice 18, and when the stopper section 14 counters the tooth back of the trigger lever 7, it will be in the trigger lock state where the movable range of the trigger lever 7 was restricted.

[0019] Since the side of a dial 10 is not projected outside the up-and-down covering sections 19 and 20 in the trigger lock position, there is little possibility that a dial 10 will contact a surrounding body. Moreover, since the heights 12 of a dial 10 have fitted into the up-and-down crevice 18 and the upper-limb section of the aforementioned crevice 18 rises steeply in the perpendicular mostly, even if it gives turning effort to a dial 10, it is difficult to cancel engagement to heights 12 and a crevice 18, and there is no possibility that unexpected release of the lock state may be carried out.

[0020] In case a trigger lock is canceled, a dial 10 is pinched with a finger, energization of a

compression spring 21 is resisted, a dial 10 is pulled up in the direction of the trigger lever 7, and engagement to heights 12 and the aforementioned crevice 18 is canceled by rotating a dial 10.